

## Draft Deliberative

### NSPS Option for Existing Utilities: Single Emission Rate Approach

#### AKA V-J

- Set a single<sup>1</sup> uniform emission rate or heat rate standard for all subpart Da sources.
- Standard would be somewhere in the range of 1600 to 2100 lbs CO<sub>2</sub> per megawatt hour (MW-hr)
- Use 2100 lbs CO<sub>2</sub> per MW-hr as straw proposal= roughly a heat rate of 10,000
  - According to CATF rough projections, about 38% of existing capacity<sup>2</sup> would already meet this standard.
  - About 28.5% of existing capacity<sup>3</sup> is composed of units with heat rates between 10,000- 10,500 and these represent the outer boundary of units that would attempt to meet the standard through improved efficiency.
  - The total percentage of capacity that can meet the standard easily without improvements, plus the units that are close to the standard and would attempt to make changes is about 66.5% of the coal fired fleet.
  - Units above 10,500 heat rate would constitute about 33.5% of existing capacity<sup>4</sup>.
  - If all units above 10,500 heat rate retire as a result of this policy, and the energy produced by those units was replaced with new natural gas, projected BAU power system CO<sub>2</sub> emissions would drop by about 16%.
- BDT for subpart Da would be met by 65% of the existing units already, therefore EPA should be able to argue that a 2100 lbs CO<sub>2</sub> per MW-hr standard meets the legal test as BDT.

---

<sup>1</sup> I believe this same approach could be used under the subcategorization approach being authored by Kevin, using differing efficiency levels.

<sup>2</sup> Or 37% of recent coal fired generation

<sup>3</sup> 28 % of recent coal fired generation

<sup>4</sup> 32% of recent coal fired generation

- All units would be able to meet this standard through conversion to natural gas boilers, therefore no unit would be required to shut down to meet the standard. Query whether many units would choose to do so.
- Some units could meet or partially meet the standard through natural gas co-firing. Query whether units would choose to do so and at which level---one could adjust the standard level downward to tune the standard to achieve the desired policy outcome and taking large amounts of natural gas co-firing into account. Not all units can natural gas co-fire. It does not appear that using natural gas co-firing would be economic for a large percentage of the capacity above the 10,000 heat rate.
- The standard could be made effective anywhere between 2018 and 2025. Use 2020 as a straw proposal.
- EPA could add a trading module for generation of credits within existing subpart Da or within new and existing subpart Da as follows
  - Credits would be generated by setting a baseline for all existing sources using their 2008-2010 actual emissions (or 2005-2010).
  - Sources with 2008-2010 baselines above the 10,000 heat rate could generate credits by emitting below 10,000 (including by shutting down) during the period between rule promulgation and the effective date of the standard (2020)
  - A second tranche of credit generating units could be included---for instance those units with heat rates between 8000 and 10,000. It's not clear what the rationale would be for allowing those units to generate credits and not others. Modeling could help figure out if a second tranche is necessary or advisable.
- Remaining useful life safety valve: Instead of (or in addition to) trading, remaining useful life could be defined in terms of the impact of meeting the standard on a state (or RTO's) average electricity price. If a state determined that the impact of a specific unit meeting the standard would result in an electricity price impact greater than x% (say 1%) then the state could determine that the source in question should not meet the standard.
- State equivalency: Draft model rule allowing states to determine equivalency with this standard looking at all Da units in their state.

- CCS—use demonstration provision to allow first 10 GW of CCS to meet an 1800 lbs CO<sub>2</sub> per MW hour and to generate credit for all generation below that level.

Pros:

- This option provides a “traditional NSPS” approach for establishing standards for this sector that is relatively simple and noncontroversial on its face.
- It should result in retirements of inefficient units (and thus total CO<sub>2</sub> reduction), while allowing units on the margin to make efficiency changes to meet the standard.
- The mechanism is straight-forward and initially appears legally defensible. State equivalency issues will need to be more fully addressed, but should not be a heavy lift for this rule